

**DEVELOPING ACTIVITY-BASED YOUNG FARMERS' CLUB
PROJECTS FOR INCORPORATION INTO THE SENIOR SCHOOL
CURRICULUM IN NIGERIA**

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Abstract

The purpose of the study was to develop activity-based contents of young farmers' club activities for inclusion in the agricultural science curriculum for Senior School (SS) 1-3. The first two components of Stufflebeam's Context-Input-Process-Product (CIPP) curriculum development models were adopted. The sample and sampling techniques of content development employed involved all the projects of the Young Farmers' Club peculiar to agricultural science. The research work focused on four Nigerian SS Agricultural Science Curriculum themes of crop production, ornamental plants, animal science and agricultural economics and extension. If the contents are adequately implemented by SS agricultural science teachers, the performance of students could improve and the goals of teaching agricultural science to students could be attained by preparing students to be self-employed, thus reducing over - dependence on white collar jobs. It was recommended that curriculum developers should adopt/adapt the contents developed and include them in the agricultural science curriculum for senior secondary school (SS)1-3 .Textbook authors should also incorporate the newly developed contents in the revised edition of the various agricultural science textbooks for SS1-3.

Introduction

Education is regarded globally, as a potent instrument for introducing and sustaining social changes in human societies, as well as shaping the destiny of the world. Education is a life-long socialization process through which values and cultures are learned, shared and transmitted from generation to generation (Igbo, 2003; Schaefer, 2007). The Nigerian educational system took its root from the traditional system of the pre-colonial era. This was a period of indigenous education in which traditional education were practiced in various vocations like farming, weaving, blacksmithing, pot making, traditional medicine, hunting etc. Learning was characterized by apprenticeship and much of unrealized and unexplained science and technology were practiced. There was no formal curriculum but the training was relevant to the needs of the society. The training was somehow primitive and localized because it was informal (Ajeyalemi, 2008). Formal education was introduced by British missionaries in the 1840s. The Anglican Church Missionary Society (CMS) started schools in the mid-1800s. Remarkable efforts were made by the various missionary bodies in building churches and schools which were used for the purpose of evangelizing. The basic

content of instruction in schools was reading and writing which were necessary for the understanding of the gospel. However, the missionary schools were devoid of standard and uniform curricula, as each missionary body established schools to suit her specific needs. In the early twentieth century the government began building of primary and secondary schools (Ajeyalemi, 2008).

The military and civilian governments paid little attention to education, then. Hence, and the quality of education deteriorated nationwide (Alaja, 1974). The philosophy for the country's education are: promotion of the teaching of Nigerian languages; introduction of guidance and counseling in schools; and diversified curriculum with prevocational and vocational technical subjects. This policy was characterized by the 6-3-3-4 educational system, which required that an average Nigerian child would spend a minimum of 6 years in primary school, 3 years in junior secondary school, 3 years in senior secondary school and minimum of 4 years in the university (FRN,2013)

The recent Federal Government reform in education adopted the 9-3-4 system with emphasis on vocational education and the need to attain the Millennium Development Goals (MDGs). Its main aim is to achieve the critical targets of the NEEDS, which can be summarized as: value – orientation, poverty eradication, job creation, wealth generation using education to empower the people. This development led the Nigerian Educational Research and Development Council (NERDC) to review and realign the curricula for senior secondary schools to fit the reform programmes (NERDC, 2005). The new curriculum laid emphasis on Vocational Education with the aim of reducing the high rate of youth unemployment especially through agricultural science.

Agricultural science is one of the core vocational curricular subjects taught at both junior and senior secondary schools in Nigeria. Agricultural science is a broad multidisciplinary field that deals with the selection, breeding and management of crops and domestic animals for economic production and for sustaining food security. According to Achor (2003), food security is one of the major challenges facing the third world nations. Achor discovered that government inability to provide sufficient food for its ever increasing population has been the root cause of extreme poverty and hunger among the citizens. Anyanwu and Anyanwu (2008) reported that causes of food insecurity ensued due to sudden population increase which meant that the quantity of food and fruits gathered during hunting and local farming are now insufficient. It is not easy now to make more food available to the ever increasing populace. The food security issue is not peculiar to Nigeria alone. Many other developing nations are also facing acute food shortage due to population explosion, poor management of resources, inability to adapt to new technology by utilizing education to withstand the new threat and new challenges. Past and present governments in Nigeria have introduced some programmes in the past to solve problems of poverty and food shortages which include:

- Operation Feed the Nation – (OFN)
- Structural Adjustment Programme – (SAP)
- Integrated Rural Development Programme (IRDP)
- Green Revolution – (GR)
- Better Life for Rural Women – (BLRN)

- Family Support Programme – (FSP)
- Directorate of Foods, Roads and Rural Infrastructures – (DFRRI)
- National Accelerated Food Production Project – (NAFPP)
- Agricultural Development Project – (ADP)
- River Basin Development Authority – (RBDA)
- National Seed Multiplication Programme
- Agricultural Credit Guarantee Scheme

None of these efforts has actually addressed the backbone of the problem (Ihimodu, 2004). The reason is that the adults through which these efforts are channeled are generally out of formal school system and they already form opinions against practice of agriculture as a career. There is the need to focus youths and children for re-orientation of value system and means of livelihood. The practice of agriculture in Nigeria could be a panacea to food security if only the youths are caught at their early stage to show interest in agriculture as occupation and means of livelihood. This could be the reason behind the interest of the present government in repositioning agricultural sector through quality teaching and learning of agricultural science in secondary schools in Nigeria. The Federal government believes that education is a veritable instrument for quality transformation of citizens as well as the nation (FRN, 2013). Agricultural education must be geared towards youths at various levels of educational achievement. These youths need new orientation of values on life-long skill acquisition and vocational skills programmes with special reference to agricultural practices.

The Young Farmers' Club is an agricultural youth club and it is known as YFC. YFC is an organization in which young people, aged between nine and twenty-five years are engaged in learning about farming and home-making techniques (Ajayi, 2006). A successful YFC programme is beneficial to the participating youths, the family, local government, club members and the country as a whole.

Young Farmers' Club is aimed at helping members to achieve the following objectives: to acquire better farming skills and practices, home-making and rural community development; informal training in agriculture; improvement in social and recreational activities among others (Ajayi, 2006). It also promotes team work, proper use of leisure, reduce juvenile delinquency, restores dignity to agriculture as an occupation, develop good and competent agricultural leadership, and help to raise the standard of living of rural people (Ajayi, 1987). The members of the club are allowed to elect their officers, plan their own programmes, execute their programmes and hold meetings regularly. They also carry out worthwhile projects or activities in farming, home-making, community development and other related areas.

Specific Projects of the Young Farmers' Club

Members of the young farmers club can execute projects individually and as a group. Hence, there are individual and group projects. Some of the specific projects that could be executed individually and as a group include:

- **Agricultural projects.** These include crop production and processing, horticulture, forestry, poultry, piggery, rabbitry and record keeping.

- **Home Economics Projects.** These include clothing, home improvement, food preparation and nutrition, etc.
- **Rural Community Development Projects:** These include environmental sanitation, road/path construction, construction of culverts/bridges, stream banks, health centers, school buildings, community centre and re-creational centers, etc.
- **Handcrafts:** These include basket making, broom preparation, calabash decoration, dying, weaving, carpentry, brick laying and drawing, etc.
- **Educational projects:** These include career talks, tours, field trips, symposia, debates, etc.
- **Managerial Skills:** These include record keeping, thrift, principles of accounts and leadership development (Agbulu, 2004).

Some of the activities of the YFC will be of immense benefits to students if they could be included in the current agricultural science curriculum.

The Current Nigerian Senior School Agricultural Science Curriculum

The Nigerian Senior Secondary (SS) Agricultural Science Curriculum covers three classes, Senior Secondary classes 1-3 and was developed around 9 themes (which are: Basic concepts, Agricultural Ecology, Agricultural Engineering /Mechanization, Crop Production, Forestry, Ornamental plants, Crop protection and Agricultural Economics and Extension). In selecting the contents, three major issues shaping the development of nations worldwide and influencing the world of knowledge today are identified.

These are globalization, information/communication technology and entrepreneurship. The food security issue ravaging Nigeria and the ill attitude of her citizens towards agriculture has called for the organization of the contents of the curriculum around nine themes. Thus, the curriculum is packaged with contents that lead to self-actualization by the students with less practicability. Hence, suggested inclusion in the curriculum contents focuses on practical activities with emphasis on locally- available materials to interest students and stimulate learning. This is to instill in the learners the spirit of inquiry. The curriculum contents, if effectively implemented might enable the learner achieve his/her maximum potential in agriculture and its practicalities. The major topics covered in the nine themes in the three classes are summarized in table 1

Table 1. Summary of the Nigerian SS1-3 Agricultural Science Curriculum.

Theme	SSS1	SSS2	SSS3
Basic concept	Meaning and importance of agriculture, Problems of Agricultural Development and Possible solutions, Meaning and differences of Subsistence And Commercial Agriculture, Role of		

Theme	SSS1	SSS2	SSS3
	Government in Agricultural Development, Role of Non-governmental Organizations in Agricultural Development, Agricultural laws and Reforms		
Agricultural Ecology	Meaning and Importance of Agricultural Ecology, Land and its Uses, Factors Affecting land availability for Agricultural purposes, Agro-Allied Industries and Relationship between Agricultural production, Rock Formation, Soil Formation and Profile development Types, Composition and properties of soil.	Plants nutrient and nutrient cycle, irrigation, drainage, agricultural pollution	
Agricultural engineering and mechanization	Simple farm tools, uses and maintenance, farm machinery and implements, maintenance practices and precautionary measures, problems of agricultural mechanization, prospects of agricultural mechanization, and sources of power.	Farm surveying and planning, farm planning, principles of stead, planning and location of buildings and structures	
Crop production	Classification of crops, husbandry of selected crops, pasture and forage crops		Crop improvement
Forestry		Forest management	

Theme	SSS1	SSS2	SSS3
Ornamental plants		Agro-forestry practices in Nigeria Meaning and importance of ornamental plants ,common types of ornamental plants each type, methods of cultivation ornamental plants, maintenance of ornamental plants	
Crop protection		Diseases of crops, pests of crops, weeds and weed control	
Animal science		Types and classification of farm animals, anatomy and physiology of farm animals, animal reproduction ,environment al physiology, livestock management , animal nutrition,	Animal improvement, animal health management, aquaculture, apiculture or bee keeping

Theme	SSS1	SSS2	SSS3
		rangeland management	
Agricultural economics and extension		Basic economic principles, factors of production, principles of demand, principles of supply, implication of demand and supply for agricultural production, functions of a farm manager, problems faced by farm managers	Agricultural finance, farm records and accounts, marketing of agricultural produce, agricultural insurance, agricultural extension

As a result of the above themes suggestions were made for the inclusion of some objectives and contents on four areas of the themes namely crop production, ornamental plants, animal production and agricultural economics and extension.

Justification for the Inclusion of the Developed Contents in Crop Production

Table 2 provides an explanation for the inclusion of the two italicized performance objectives in the theme of Crop production under the topic of husbandry of selected crops.

The objectives hinge on the principles for the establishment of young farmers' club which is intended to actively involve students in the processing of farm produce. This involvement could increase their knowledge and stimulate their interest. The knowledge gained could be used in their homes and on farm projects thereby reflecting positively on the nation's economy. The objectives of the lesson could guide the teacher's preparation for the lesson in selecting appropriate apparatus that would be used in processing some crops to obtain their by-products. This could enhance the existing curriculum objectives that are of the lower level in the Bloom's taxonomy.

Table 2. Theme 5 on Crop Production, Topic 2 on Husbandry of Selected Crops for SS1

Performance objectives	Content	Activities		Teaching and learning materials	Evaluation guide
		Teacher	Students		
Students should be able to:	Classification of crops based on their uses: cereals, pulses, roots and tubers, vegetables.	Displays a collection of crop seeds, fruits or leaves.	Observe and note differences and group that each belongs.	Crop seeds, fruits and leaves.	Identify and classify crops based on uses, lifecycle and morphology.
1. State major crop husbandry practices					
2. State major crop husbandry practices	Botanical name and local /common names of crops. Harvesting processing and storage of the selected crops.				
3. Schematize the steps involve in the processing of a named crop.		<i>Guides the students to process crops to obtain their by-products e.g processing of groundnut to obtain oil.</i>	<i>Participate in the processing of crops to obtain their by-products.</i>	<i>Groundnut, pot, grinder, maize, sorghum, stove and basin.</i>	<i>Schematize the steps involve in the processing of groundnut to obtain groundnut oil and groundnut cake</i>
4. Process a named crop to obtain its by-products.	<i>Approaches and techniques in processing of some selected crops e.g groundnut to groundnut cake and the by-products of some selected crops.</i>				

Justification for the Inclusion of the Developed Contents on Ornamental Plants

Table 3 provides description on the inclusion of the two italicized performance objectives in the theme; Ornamental plants under the topic; maintenance of ornamental plants.

The objectives emanate from the principles for the establishment of young farmers' club which emphasizes the preparation of students for occupational opportunities in agriculture, This inclusion would enable students acquire the basic knowledge needed for identifying and collecting viable ornamental seedlings for transplanting and nurturing to maturity. School years are critical time for students to engage in career exploration and development. How and where people begin their working careers have major influence on the nature of their work for many years to come. The performance objectives would also enable the teachers prepare adequately for the lesson by suggesting hints for the teacher on apparatus

Performance Objective	Contents	Activities		Teaching and Learning Materials	Evaluation Guide
		Teacher	Students		
Students should be able to: 1.List maintenance operations of ornamental crops. 2.Discuss reasons for carrying out each operation 3.Carry out the operations in any established ornamental site. 4.Collect seedlings	Maintenance operations/ activities of ornamental plants: .watering .mulching .pruning . 2.Seedlings collection and transplanting 3. Nurturing of seedlings to maturity	Guides discussion on maintenance activities Displays materials and tools for maintenance operations e.g watering can, mulch, pruning tools etc. Demonstrates the transplanting of the seedlings and	Observed the maintenance materials and tools. Suggest reasons for carrying out each operation Collect seedlings from an ornamental sites. Nurture the seedlings to maturity	Ornamental field site. Maintenance materials and tools Seedlings and school farm, transplanting tools e.g hand trowel, garden fork, cutlass, hoe, shovel etc	Students to: 1.What are major maintenance operations of ornamental plants 2. Give the reasons for carrying out maintenance activities in the field 3. Identify viable seedlings 4.What are the procedures

<i>from an ornamental site 5. Transplant the seedlings and nurture to maturity</i>	<i>supervise the process of nurturing the seedlings</i>	<i>es for seedling collection ? 5. Explain the process of seedling nurturing</i>
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needed for the lesson. The existing objectives are in the lower order of the Bloom's

taxonomy.

Table 3. Theme 4 on Ornamental plants, Topic 2 on Maintenance of Ornamental Plants for SS3

Justification for the Inclusion of the Developed Contents on Animal Science

Table 4 clarifies the reasons for the inclusion of the two italicized performance objectives on the theme of Animal science under livestock management.

The objective draws from one of the principles for the establishment of young farmer's club which is aimed at broadening the knowledge of students in animal production and to enable students explore practical agriculture to get a deeper understanding of the concept and the nature of animal production. These skills possess the characteristics that they are marketable, transferable and have wide application beyond the course content alone. The students are expected to learn the act of animal production by raising the animals themselves. The small sized livestock are locally available unlike the existing objectives which focus on larger animals that are not affordable and not easily available. Students learn best using strategies and objectives that reflect individual experiences, abilities, aptitudes and interest. The objectives of the lesson could guide the teacher's preparation for the lesson in selecting the appropriate teaching resources that would be used in teaching the concept of small ruminant production and the husbandry practices/ management practices involved.

Table 4. Theme 6 on Animal Science, Topic 5 Livestock Management for SS2

Performance Objectives	Contents	Teacher	Students	Teaching and Learning Materials	Evaluation Guide
Students should be able to: 1. Raise small ruminant livestock 2. Provide the animal with all environmental management practices necessary for good development	5.Small ruminant production project 6.Environmental management practices necessary for good development livestock 1.Meaning of livestock management 2.Requirement for livestock management 3.Importance of these management practices 4. Livestock production project	4.Provides the small ruminant livestock to be raised by the students 6.Discusses the environmental management practices necessary for good development of the animals 1.Guide class discussion 2.Guide students in practical keeping of animals	3.Participate actively in the discussion during the club session 4.Raise the small ruminant livestock at home and to be presented at the club after finishing 1.Participate actively in the class discussion 2.Practical work on rearing of animals on the school farm.	Snails, grass cutters, guinea pigs and cages. Life animals like rabbit, goat and poultry.	5. Draw and label a representative small ruminant livestock 6. What are the environmental management practices necessary for good livestock development 1.State the meaning of livestock management. 2.What are the requirements for livestock management 3,Explain the importance of each of these requirement 4.Raise a selected animal from stock selection to finishing 4.Present record of management practices

4. Keep farm
animals and
take care of
them

in the
school
3.
Provides
necessa
ry inputs
for the
practical
project.

Justification for the Inclusion of the Developed Contents on Agricultural Economics and Extension

Table 5 elucidates reasons for the inclusion of the two italicized performance objectives in the theme; Agricultural Economics and Extension under the topic Farm Records and Accounts.

The objectives draw from the principles for the establishment of young farmers' club which is to prepare students for further studies in agriculture and the keeping of records by students. Such records are not only valuable in showing just what is being done by students, but are also essential as a basis for improved methods of management practice in agricultural accounting. This is in connection with the work of the classroom and the school farm has a high value in accuracy training. One of the main aims of teaching farm accounting is to develop an appreciation of its value and to develop accuracy and neatness. A course in dairy would be incomplete if dairy records were not considered. Likewise, a course in poultry husbandry should involve poultry record and account essentials to succeed in that enterprise. If these enterprises are to be practical oriented, records and account must be taught thoroughly to students. The lesson objectives would enable the teacher to setup the school farm if not available and ensure effective delivery of the lesson.

Table 5. Theme 3 Agricultural Economics and Extension on Topic 2 Farm Records and Accounts for SS3

Performance Objective	Content	Activities Teacher Students		Teaching & Learning Materials	Evaluation Guide
1. State the importance of farm records and account.	1.Importance of farm records	Discuss on types of records	Participate in the records	Models of some farm records	1.list and explain two important farm records.
2. State important types of farm records.	(i)performance evaluation of farms				
3. Develop a farm record	(ii)farm management decisions , etc. 2. Types of farm records i. inventory records				

		ii.	production records	<i>Guides the students in the records keeping.</i>	<i>Students participate in the records keeping</i>	<i>School farm</i>	<i>2.Keep a named farm record</i>
<i>1.Keep a school farm records</i>		iii.	income and expenditure records.				<i>3.Analyse the school farm records</i>
<i>2.Analyse a school farm record</i>		iv.	supplementary or special records				
			<i>3.School farm and records keeping .</i>				

Conclusion and Recommendations

Incorporating YFC in agricultural curriculum has positive influence on agricultural science in the five themes: crop production, ornamental plants, animal science, livestock management and agricultural economics and extension. Specific agricultural skills that can be acquired by members of YFC include agronomic and livestock management practices, agro processing, marketing, record keeping and partly extension service. Revision of existing agricultural science curriculum will strengthen entrepreneurial skills for self employment and enhance food security for the teeming population of this country.

It is therefore recommended that stakeholders in education industry could take a look at this proposal for implementation. This might yield a long term benefit in achieving the goals of agricultural science for the nation's economy and human development.

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